

REMARKS

Summary of the Office Action

Claim 11 stands objected to for an informality pointed out by the Examiner.

Claims 1, 2, 12 and 13 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Ohba (U.S. Patent No. 5,892,744) (hereinafter "Ohba").

Claims 3 and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohba.

Claims 9 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohba in view of Alon (U.S. Patent No. 5,959,953) (hereinafter "Alon").

Claims 10, 11, 19 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohba in view of Imada et al. (U.S. Patent No. 5,404,344) (hereinafter "Imada").

Claims 4-8 and 15-17 stand objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Summary of the Response to the Office Action

Applicants have amended claim 11 to improve its form. Accordingly, claims 1-20 remain pending for consideration.

Claim Objection

Claim 11 stands objected to for an informality pointed out by the Examiner at page 2, section 3 of the Office Action. In particular, the Examiner points out that on the last line of claim 11, "recording" should be --recording--. Applicants have amended claim 11 in accordance with the Examiner's helpful suggestion at page 2, section 3 of the Office Action. Accordingly, withdrawal of the objection to claim 11 is respectfully requested.

Rejections under 35 U.S.C. §§ 102(b) and 103(a)

Claims 1, 2, 12 and 13 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Ohba. Claims 3 and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohba. Claims 9 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohba in view of Alon. Claims 10, 11, 19 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohba in view of Imada.

Claim 1 of the instant application describes an optical pickup device combination that includes an optical system for focusing the zero order, +/- first order and +/- second order diffracted light on a recording surface of an optical recording medium. More particularly, claim 1 goes on to explain that the optical pickup device is configured "so as to form a spot of the zero order diffracted light on a first track" and also so as to form "spots of the +/- second order diffracted light on tracks adjacent to the first track." At pages 2-3 of the Office Action, the Examiner cites to Figs. 5, 6 and 8 of Ohba as allegedly meeting these features. This interpretation of Ohba is respectfully traversed for at least the following reasons.

Fig. 7 of Ohba illustrates diffracted beams focused on what it refers to as an "ordinary" optical disk. Fig. 8 of Ohba illustrates diffracted beams focused on what it refers to as a "high-density" optical disk. The specification of Ohba explains that the "high-density" disk refers to a DVD disk, while the "ordinary disk" refers to a "compact disk," for example. See col. 3, lines 14-17 of Ohba in this regard.

In the Ohba arrangement, when an "ordinary" optical disk (compact disk) is being used, a tracking error signal is determined based on an analysis of the second-order diffracted beams. The first-order diffracted beams are not utilized in this instance. When a "high-density" optical disk (DVD) is being used, a tracking error signal is determined based on an analysis of the first-order diffracted beams. The second-order diffracted beams are not utilized in this instance. See col. 6, lines 36-60 of Ohba. Thus, each of the arrangements of Figs. 7 and 8 of Ohba are traditional "three-beam" pickup arrangements similar to those discussed in the Background portion of the instant application. Thus, there is no teaching or suggestion of a "five-beam" pickup arrangement, utilizing each of zero order, +/- first order and +/- second order diffracted light, as described in independent claim 1.

In addition, with regard to Fig. 8 of Ohba, cited to by the Office Action, the disclosure of Ohba explains that the track pitch of such a "high-density" disk is Tp_2 . It is well understood in the art of optical disks that "track pitch" refers to the distance between adjacent tracks. Ohba explains that the "orientation and pitch of arrangement of the zero-, first- and second-order beams on the optical disk ... are controlled by adjusting the pitch of the slits in the diffraction grating." Ohba goes on to explain that the diffraction grating is adjusted in the Fig. 8 arrangement "such that the distance between the zero-order diffracted beam and either one of the

first-order diffracted beams is $Tp2/4$ in the radial direction P of the optical disk." See col. 4, line 66 - col. 5, line 19 of Ohba.

The applied Fig. 8 of Ohba shows three tracks of a high-density disk extending in the vertical direction. Each of these tracks are shown as shaded areas having a distance of $Tp2$ (track pitch) between it and the adjacent track. While the zero-order light is shown as being centered on the middle track of Fig. 8, it is clear from the disclosure of Ohba that the second-order diffracted light beam spots are arranged in Fig. 8 so that they are focused at a point between two adjacent tracks. See the top-most and bottom-most beam spots of Fig. 8 of Ohba. Even further, these second-order light beam spots are not even utilized in the Fig. 8 arrangement of Ohba, as previously discussed.

The Office Action appears to be interpreting this area between adjacent tracks in Fig. 8 of Ohba as being a "groove track." The Office Action also interprets above-discussed shaded vertical areas of Fig. 8 of Ohba as being "land tracks." Such an interpretation is respectfully traversed at least because Ohba does not discuss "lands" and "grooves" to any extent. On the other hand, Ohba is clear in its discussion of a "track pitch" of $Tp2$ as referring to the distance between adjacent tracks. Thus, Applicants respectfully submit that only the shaded vertical areas in Fig. 8 of Ohba represent tracks.

Applicants respectfully submit that the arrangement shown in Fig. 8 of Ohba is similar to the DVD-ROM arrangement shown in Fig. 1 of the instant application. Such an arrangement utilizes adjacent tracks, formed by a train of embossed pits (as discussed in the Background portion of the instant application), but this DVD arrangement does not include grooves. The instant application refers to additional optical disk arrangements of the DVD family such as the

groove recording type optical disk of Fig. 2 (DVD-RW and DVD-R, for example) and the land-groove recording type optical disk of Fig. 3. However, Ohba does not provide any disclosure, or even a suggestion, of such additional DVD arrangements involving grooves. This is consistent with the fact that Ohba's foreign priority date goes all the way back to September of 1995.

In addition, it is clear from the disclosure of Ohba that its optical detector only receives returning light at its photodetector from three light beams in the Fig. 8 arrangement, namely zero-order and +/- first order light, thus being a "three-beam" pickup similar to those discussed in the Background portion of the instant application. The "optical detector" portion of independent claim 1 clearly recites that it receives each of the five types of light beams at its "first to fifth independent light-receiving elements."

Accordingly, Applicants respectfully submit that Ohba does not disclose, or even suggest, particular features of independent claim 1 including the feature of the optical pickup device being configured "so as to form a spot of the zero order diffracted light on a first track" and also so as to form "spots of the +/- second order diffracted light on tracks adjacent to the first track." Even further, Ohba does not disclose, or even suggest, independent claim 1's feature of a "five-beam" optical detector feature utilizing each of zero order, +/- first order and +/- second order diffracted light, as discussed previously. Applicants respectfully submit that independent claim 12 is also allowable for similar reasons as set forth above with regard to independent claim 1.

Accordingly, Applicants respectfully assert that the rejections under 35 U.S.C. §§ 102(b) and 103(a) should be withdrawn because Ohba does not teach or suggest each feature of independent claims 1 and 12.

As pointed out in MPEP § 2131, "[t]o anticipate a claim, the reference must teach every element of the claim." Thus, "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Verdegaal Bros. v. Union Oil Co. Of California, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987)."

Similarly, MPEP § 2143.03 instructs that "[t]o establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 409 F.2d 981, 180 USPQ 580 (CCPA 1974)." Furthermore, Applicant respectfully asserts that the dependent claims are allowable at least because of their dependence from claim 1 or 12, and the reasons set forth above. Moreover, Applicant respectfully submits that the additionally applied references to Alon, with respect to claims 9 and 18, and Imada, with respect to claims 10, 11, 19 and 20, do not cure the deficiencies discussed above with regard to Ohba.

The Examiner is thanked for the indication that claims 4-8 and 15-17 would be allowable if rewritten in independent form. However, as noted above, these dependent claims are also allowable because of their dependence from claims 1 or 12. Accordingly, withdrawal of the objection to these claims is respectfully requested.

CONCLUSION

In view of the foregoing, Applicants submit that the pending claims are in condition for allowance, and respectfully request timely allowance of the pending claims. Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants' undersigned representative to expedite prosecution. A favorable action is awaited.

EXCEPT for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. § 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account No. 50-0573.

This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. § 1.136(a)(3).

Respectfully submitted,

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